

## ***Paguristes puniceus* Henderson, 1896 (Decapoda: Anomura: Paguroidea: Diogenidae): A study in intraspecific variability**

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### **Abstract**

The availability of 45 adult specimens from single population of the hermit crab *Paguristes puniceus* Henderson, 1896, together with ten specimens from other localities, has made it possible to investigate intraspecific variability in morphological characters heretofore considered diagnostic for species of the genus. Fifty-one attributes deemed important by previous investigators, were examined and/or measured. However, when variations in segmental armature were found in the two pairs of ambulatory legs, the segments were scored individually, for a total of 77 characters. The results of the analysis demonstrated conclusively that most, if not all, previously employed characters were subject to intraspecific variation, and that for some, variability rendered them ineffective in discriminating among closely related taxa. Just as a suite of characters is usually needed to define a taxon, a similar suite is needed to differentiate one closely related taxon from another. In addition to discussing the ranges of variation observed for each of the characters, *P. puniceus* has been redescribed to include this variability. A second taxon, *P. puniceus unispinosa* Balss has been found to be a junior subjective synonym of *P. puniceus*. *Paguristes puniceus* also has been compared with three very similar Japanese species, *P. miyakei* Forest & McLaughlin, 1998, *P. doederleini* Komai, 2001, and *Paguristes* sp.

**Key words:** Decapoda, Paguroidea, Diogenidae, *Paguristes*, *Paguristes puniceus*, intraspecific variation

### **Introduction**

During a study of the hermit crabs in the collections of the Western Australian Museum, several species of *Paguristes* Dana, 1851, were encountered, the identities of which required a complete reexamination of the Australian species assigned to the genus. The initiation of the latter review added collateral complexities, as at least two species appeared, with some variations, to be identifiable with taxa known previously from locali-